

Notice of Allowability

Application No.

10/799,663

Examiner

MANSOUR M. SAID

Applicant(s)

TAKAGI ET AL.

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/8/07.
2. ☒ The allowed claim(s) is/are 1-12.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 12/6/07
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____

7. ☐ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____

FORWARDED HERE
TO THE UNITED STATES PATENT AND TRADEMARK OFFICE
DATE: 12/11/07

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 12/8/07 has been entered.

Allowable Subject Matter

2. **Claims 1-12 are allowed.**

The following is an examiner's statement of reasons for allowance: Claims 1-6 and 11 are allowed since certain key features of the claimed invention are not taught or fairly suggested by prior art. **In claim 1**, “adjusting a number of sustain pulses in each of the plural kinds of voltage waveforms according to a weight of luminance set for the at least one sustain period of the corresponding sub-field, wherein the plural kinds of sustain pulses bring light emissions that differ from one another”. **In claim 7**, “applying plural kinds of sustain pulses in the different voltage waveforms for a sustain period of at least one sub-field; and adjusting a number of sustain pulses in the different voltage waveforms according to a weight of luminance set for the at least one sustain period of the corresponding sub-field, wherein one of the voltage waveforms of the sustain pulses is a step-like waveform”. **In claim 11**, “a sustain pulse adjustment unit adjusting a number of the sustain

Art Unit: 2629

pulses in each of the voltage waveforms to achieve a weight of luminance for the sustain period of the subfield, wherein sustain pulses having different voltage waveforms bring different respective light emission". In claim 12, "applying plural kinds of sustain pulses in the different voltage waveforms for a sustain period of at least one sub-field, at least one sustain pulse having a step-like waveform is applied in an initial phase of the sustain period, and another sustain pulse having a rectangular voltage waveform is applied in a subsequent phase in a common sustain period" The closest prior art Nagao et al. (6,653,993 B1) teaches a plasma display comprising a plurality sub-fields, a set-up, write, sustain and erase pulses, using a staircase waveform so as to control unwanted light emission at the time of initialization and erase discharge, improves contrast and luminous efficiency, Nakamura (6,784,857 B1) teach the sustaining discharge current supply pulses having the different achieving voltage levels are applied in sequence of a magnitude of difference between the different achieving voltage levels and potential of a final one of the sustaining discharge current supply pulses, Suzuki (6,933,911 B1) teach number of the sustain pulses inputted to the paired sustain electrodes is adjusted in accordance with the detected area ratio, so that the luminance is always corrected to the reference value ; however, singularly or in combination with other prior art, fail to anticipate or render the above underlined limitations obvious.

Art Unit: 2629

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kojima et al. (6,724,356) teach the sustaining pulse numbers of the respective sub-frames are determined through calculations using the total sustaining pulse number.

Shigeta et al. (7,042,424) teach light-emission drive sequences which have mutually different ratios of the number of times of light-emissions.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mansour M. Said whose telephone number is 571-272-7679. The examiner can normally be reached on Monday through Thursday from 8:30-6:00 P.M. The examiner can also be reached on alternate Friday from 8:30 a.m. to 5:00 p.m. EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard A. Hjerpe whose telephone number is 571-272-7681.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: 571-273-8300 (for Technology Center 2600 only)

Art Unit: 2629

Hand-delivered responses should be brought to the Customer Service Window at the Randolph Building, 401, Dulany Street, Alexandria, VA 22314.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mansour M. Said

12/23/07



FOR THE DIRECTOR
UNITED STATES PATENT AND TRADEMARK OFFICE